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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,800	02/16/2001	Erich Strasser	56/349	5551

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EXAMINER	
SONG, HOON K	

ART UNIT	PAPER NUMBER
2882	

DATE MAILED: 04/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/785,800	STRASSER, ERICH	
	Examiner	Art Unit	
	Hoon Song	2882	AU

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-12,15-23 and 25-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *25-34* is/are allowed.

6)☒ Claim(s) *2,4-7,10-12,15-23,35 and 36* is/are rejected.

7)☒ Claim(s) *3,8 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 February 2001* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 11 and 15 are objected to because of the following informalities:

Claim 11 recites the limitation "the setting" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites the limitation "the spacing" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2, 4-7, 10-12, 15-23 and 35-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Curtis (US 5302944).

Regarding claim 2, Curtis teaches a method for operation of a position measuring device, which comprises a scanning unit that defines a scanning plane and a measuring graduation that defines a measuring graduation plane, said scanning unit and said measuring graduation are movable relative to one another during a measurement operation, and position-dependent output signals are generated during scanning performed by said scanning unit. said method comprising (figure 1a):

regulating said position-dependent output signals to constant signal amplitudes by action on a controlling variable (column 4 line 16+);

ascertaining a value of said controlling variable required for said regulating (column 4 line 40+);

converting said value of said controlling variable into a digital signal suitable for serial transmission (the control variable is converted into digital signal);

transmitting said digital signal in a defined serial transmission protocol to an electronic evaluation unit downstream of said position measuring device via a transmission device (a histogram displays control variable from vs. time thus this will read serial transmission, and digital variable display graphic view of the varible will read predefined protocol); and

displaying (histogram) said converted value of said controlling variable.

Regarding claim 4, Curtis teaches that said regulating said position-dependent output signals to a constant signal amplitude comprises varying a current supply of a transmission coil as a function of said controlling variable (column 3 line 1+ and column 4 line 65+).

Regarding claim 5, Curtis teaches that said regulating said position-dependent output signals to a constant signal amplitude comprises varying a gain of an amplifier element as a function of said controlling variable (column 5 line 20+).

Regarding claim 6, Curtis teaches that the regulating said position-dependent output signals to a constant signal amplitude comprises varying a luminosity of a light

source as a function of said controlling variable (column 3 line 1+ and column 4 line 65+).

Regarding claim 7, Curtis teaches that transmitting said digital signal in a serial protocol at a predetermined bit width to said electronic evaluation (40, CPU).

Regarding claim 10, Curtis teaches that said displaying comprises having said value of said controlling variable displayed in graphic form (column 3 line 25+).

Regarding claim 11, Curtis teaches that a calibration element (luminosity).

Regarding claim 12, Curtis teaches that said position-dependent output signals comprise a first periodic signal A = Ac * sin (xt) and a second periodic signal B = Bp * costxt), said method further comprising:

forming a variable $R^2 = A^2 + B^2$ which is representative of said value of said controlling variable used during said regulating (column 4 line 24+).

Regarding claim 16, Curtis teaches a position measuring device for generating position-dependent output signals comprising: a scanning element by which a scanning plane is defined; a measuring graduation movable relative to said scanning element and defining a measuring graduation plane (figure 1a);

a regulating device for regulating output signals to constant signal amplitudes, in that said regulating device acts upon a predetermined controlling variable, to which end a requisite value of said controlling variable for the purpose of regulating is ascertained continuously by said regulating device (column 4 line 16+ and 40+); and

a conversion device for converting said value of said controlling variable into a digital signal suitable (digital conversion) for serial transmission,

wherein said conversion device is followed by a transmission device for transmitting said digital signal in a defined serial transmission protocol to an electronic evaluation unit (a histogram displays control variable from vs. time thus this will read serial transmission, and digital variable display graphic view of the variable will read predefined protocol).

Regarding claim 17, Curtis teaches that said transmission device is embodied as a synchronous serial interface (digital signal variable vs. time).

Regarding claim 18, Curtis teaches that a display device that displays said transmitted value of said controlling variable (histogram).

Regarding claim 19, Curtis teaches that a transmission coil and a reception coil in said scanning plane (figure 1a).

Regarding claim 20, Curtis teaches that said regulating device varies a current supply of said transmission coil as a controlling variable (column 3 line 1+ and column 4 line 65+).

Regarding claim 21, Curtis teaches that said regulating device varies an amplitude of an amplifier element as a function of said controlling variable (column 3 line 1+ and column 4 line 65+).

Regarding claim 22, Curtis teaches that a light source and a detector element (figure 1a)

Regarding claim 23, Curtis teaches that said regulating device varies a luminosity of said light source, to which end a current of said light source, as a controlling variable, can be varied (column 3 line 1+ and column 4 line 65+).

Regarding claim 25, Curtis teaches that converting said value of said controlling variable into a digital signal suitable for serial transmission; and transmitting said digital signal to an electronic evaluation unit downstream of said position measuring device (column 3 line 1+ and column 4 line 65+).

Regarding claim 35, Curtis teaches that said displayed value of said converted controlling variable is evaluated as a general measure for a functional state of said position measuring device.

Regarding claim 36, Curtis teaches that said serial data transfer between said transmission device of said position measuring device and said evaluation unit takes place via a data line and a clock line (control signal variable vs. time).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Curtis (US 5302944).

Regarding claim 9, Curtis fails to teach that said displaying comprises having said value of said controlling variable displayed in a form of an alphanumeric variable.

However, one having ordinary skill in the art would be motivated to display the controlling variable in alphanumeric variable instead of graphic form because it is easier to read.

Allowable Subject Matter

Claims 25-36 allowed over prior art.

Claims 3, 8 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: None of the prior art teaches or suggests a method of setting a scanning spacing between a scanning plane and a measuring graduation plane with the aid of said displayed value of said controlling variable, which acts as a measure for a current scanning spacing for setting a predetermined, optimal scanning spacing as claimed in claims 3, 8, 15 and 26.

Response to Arguments

Applicant's arguments filed December 11, 2003 have been fully considered but they are not persuasive.

The applicant argues that Curtis fails to teach "transmitting a digital signal in a defined serial transmission protocol".

However, the examiner disagrees with that because Curtis reference teaches that the control variable is digitalized and the digitalized control signal is displayed in form of graph. This teaching implies that the digital control signal is serially transmitted because the control signal chronologically transmitted in order to from a graph in view of time variable, and also the digital control signal is transmitted in defined protocol because the bit stream of digital signal is transmitted to display in graphical form. Thus

Curtis clearly teaches that the "transmitting said digital signal is a defined serial transmission protocol" and the applicant's argument is not persuasive.

Regarding the applicant's argument "setting a scanning spacing between said scanning plane ... actual scanning spacing" has been considered and indicated as allowable.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoon Song whose telephone number is (571) 272-2494. The examiner can normally be reached on 8:30 AM - 5 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571) 272 - 2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HKS 3/24/04

EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER